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RETHINKING THE LIBRARY

in the information age

VOLUME I

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RETHINKING THE LIBRARY IN THE INFORMATION AGE

A Summary of Issues in Library Research

Volume I

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INTRODUCTION

With the rapidly changing technology in computer hardware and software and the proliferation of information sources, both public and private, the library as we know it is faced with some hard questions:

- o How do libraries fit into our "information society?"
- o How must the library adapt to social and technological change in order to play a meaningful role in that society?
- o Which of the traditional library roles must be preserved and which abandoned?
- o How must the education and training of library professionals be restructured to create both practitioners and researchers who can shape the future of librarianship?

This publication summarizes a collection of essays that address the future of libraries. The original essays were an outgrowth of a study conducted by the Office of Library Programs and described in Section 1. The full text of the original essays, titled Rethinking the Library in the Information Age: Isssues in Library Research -- Proposals for the 1990s, Volume II, is available from the Government Printing Office (see For More Information).

Section 2 provides the essay summaries. The authors of the essays have viewed their topics from disparate perspectives. Some have presented their theses in the context of the library's historical role; some have focused heavily on prior research; and some have concentrated on technological innovation with all its challenges and opportunities. All have questioned the changing role of library and information professionals and have considered in some fashion the social mission of the library, the flow of information through society, the economics of information, changing user needs, and requirements for user education and training.

Section 3 presents additional questions and issues in library and information science that need investigation. The issues identified are not exclusively "library problems." They are problems facing educators, government leaders at every level, and the citizens who use library services. The content is of great interest and concern to any library professional, but should be equally informative to those concerned with such basic social issues as literacy, effective and appropriate use of public resources, accessibility of information to all segments of society, preservation of our cultural heritage, and continuing education in a period of intense technological and social change.

Kenneth J. Rehage of the University of Chicago, Secretary-Treasurer of the National Society for the Study of Education, read the complete essays at the manuscript stage. He commented: "Issues presented in this material are ones that I have encountered as an 'end user,' to borrow a term that occurs frequently in the manuscripts. This material has helped me to see the library and its problems in a different way, and for that perhaps both the library and I should be grateful."

It is our hope that other readers will share this experience, and will take from these summaries and the entire essay collection a new perception of the library, its problems, and its promise for the future.

Anne J. Mathews
Director
Office of Library Programs

SECTION I

THE STUDY
Developing a Research Agenda

The study was designed to identify researchable issues that could help libraries attain -- or maintain -- a position of leadership in the information society.

As part of the study, a series of four meetings was held during 1986-87, at which field-nominated experts identified issues they considered most important to the profession. From transcripts of the four meetings, a list of major issues was generated. They included:

- o Policy issues: federal, state, and local roles and responsibilities
- o Education and training of librarians
- o Access to information
- o Archives and preservation
- o Organizing, indexing, and retrieving materials
- o Role of the public services librarian
- o Library funding and economics
- o Libraries and education
- o Information users and needs
- o Library models.

A series of papers was commissioned to explore these topics. The authors, all experts on their subjects, outlined the general approach that would be taken in their papers, and then met with the Director of Library Programs to flesh out their proposals. The essays reflect the thinking and research of the authors, free of editorial influence or control concerning content of the papers or the overall collection.

At first draft stage, each paper was reviewed by three subject experts, and the authors were given the opportunity to incorporate suggested changes. Each final paper was again reviewed by three specialists on the topic, with an eye toward identifying additional areas of investigation. An unusual feature of the publication containing the complete essays is the inclusion of the reviewers' comments and recommendations for additional research issues following each

of the essays in the collection. This should prove particularly useful to policymakers and library educators.

Another phase of the 18-month study involved a cooperative effort with WorldNet/USIA, to conduct a series of satellite teleconferences on library and information science issues. To date, two teleconferences have taken place, each linking two U.S. librarians and information scientists in the USIA's Washington, D.C. studio, with their counterparts throughout Europe and the Middle East. The first teleconference was held in November 1987 and discussed library education and library technology with embassy posts in Cologne, Stuttgart, and Frankfurt. The second teleconference took place in May 1988 on the subject of CD-ROMS, with participating embassy posts in The Hague, London, Cologne, and Tel Aviv. Several other countries have asked to be included in future interactive teleconferences, and planning for these is now in progress.

The results of our study are described in the collection of complete essays, enriched by reviewers' suggestions of additional research topics, plus a summary of issues raised during the international teleconferences. Section 3 of this publication identifies a number of issues and problems that need further research. These are based on the ten major areas identified during our four meetings.

SECTION 2

ABSTRACTS OF THE ESSAYS

INFORMATION POLICY ISSUES: PUTTING LIBRARY POLICY IN CONTEXT

Louis Vagianos and Barry Lesser

In their challenging essay, Louis Vagianos and Barry Lesser identify and define the nature of emerging information policy issues and attempt to position the library within the larger policy context of the changing information marketplace. The library as a social institution is experiencing increased demand for information resources and user services, but it is also facing new competition, proliferating materials, rising costs, revised requirements for professional training, new demands for networking, and altered fee structures. The role of the library is changing. The day of the stand-alone depository has passed, but what new form(s) will the library take? Much of the success or failure of the library as an institution will depend on the larger social environment, and on public policy issues at every level of government.

Vagianos and Lesser suggest that a first step must be an indepth review of information law, legislation, regulations, functions, and agencies of government at the federal, state, and local levels. An appropriate definition of the information sector is needed, as are methods for measuring its size and performance. Among policy issues that must be considered are education -- "the single most important activity of society" -- as technology changes the educational requirements of our citizens and makes flexibility and adaptation to change a fact of their working lives; access -- "of fundamental importance to maintaining equality of opportunity and preserving a free and open democratic society" -- equal access both in economic and social terms; the role of the government as information producer and distributor, raising questions of competition with the private sector, the legitimacy of private firms profiting from the marketing of government information, and the appropriateness of citizens paying to receive government-produced information generated from tax dollars; national security, as the global information marketplace

becomes big business; information control, including privacy issues and property rights; and cultural issues, primarily the question of cultural sovereignty and the related possibility of removal of the artifacts, in the form of information records, of a nation's culture.

EDUCATION AND TRAINING OF LIBRARIANS

Robert M. Hayes

Focusing on the education and training of librarians, library educator Robert Hayes notes a recent dramatic change in library education: "For the first time in its historical development, there was not a growth in the number of programs, but a dramatic reduction in them. In addition, the fundamental nature of many programs has also changed, with a shift from a focus on librarianship to the inclusion of a wide range of information-oriented curricula -- to meet the needs of a far wider range of employers and operational contexts."

While his emphasis is on formal degree programs, Hayes also explores on-the-job staff development, commercial training programs, and continuing education as relevant forms f education for librarianship. Should changing demographic id cultural patterns change the nature of library studies, id of students and faculty? How should formal degree ograms be structured to fit the increasing importance of information in our society? In order for students to be prepared to deal with policy issues and questions arising in the information age, a substantial additional burden is placed on library school curricula. Additional expenses for hardware are also incurred.

Hayes raises questions concerning the contemporary relevance of the traditional core curriculum, the effectiveness of the typical practicum, the appropriateness of the duration of formal degree programs, the number of faculty essential to the success of a program, and the importance of "research productivity" (measured in publications) vs. "contribution to the profession." He asks questions about maintaining and improving the quality of students, about the resources required to achieve and maintain excellent programs, and where they can best be provided. He questions governance, the closeness of the library school to the mission of the institution, and its relationship to other academic programs. Specialization, cross-disciplinary education, research competence, and management training are other issues touched upon in this essay.

EDUCATION AND TRAINING OF LIBRARIANS

Beverly P. Lynch

Beverly Lynch, the director of a major research library, also explores the education of librarians, noting that first degree programs are preparation for entry-level positions, with specialization following through practice and self-determined continuing education, rather than through internships or other formal programs.

Lynch traces the history of education for librarianship from early apprenticeships through Dewey's school at Columbia to other academic programs in technical institutes, public libraries, and universities. The common quality in all early programs was the emphasis on technique, still the primary focus of in-house paraprofessional programs. She contends that the future of librarianship rests on principles common to all specializations in the field, yet suggests that these are poorly understood and articulated, and that vocational issues continue to preoccupy the profession. Leadership is required to address questions of intellectual content and to put vocational requirements in perspective. This is increasingly true, as changing technology and the need for adaptation to new techniques mean that vocational training is less valuable than the intellectual foundations that keep librarians on track about what the library is doing, for whom, how, why, and how well. More attention must be paid to what is taught in Masters-level courses, and the profession must take more seriously the responsibility for educating and training school librarians.

RESEARCH ISSUES IN INFORMATION ACCESS

Pat Molholt

Pat Molholt suggests that access to information -- traditionally a matter of finding out that a book or journal article exists, and then where it can be found -- will take on an added dimension in the 1990s. Tools of information technology readily reveal the existence and location of materials. The next step is to provide access to content, via online tables of contents, indices, and structures that will allow the user to move into the text itself to search. The individual needs, sophistication level, and viewpoint of the user must be addressed by providing systems with rich and varied access vocabularies. Artificial intelligence is one tool that can help make such systems available.

Molholt relates the creation of systems to organize information for convenient consumption to such conventions as pagination, margins, and punctuation developed to enhance the accessibility of printed materials.

The economics of the information marketplace, and arriving at pricing practices that will be fair to creators, producers, distributors, and users of information, are of critical importance, especially if the library is to be a driving force in the creation and distribution of information rather than a passive consumer of it. Information has always been more accessible to those who could pay for it. Libraries need to rethink issues of acquisition vs. access, and how to provide information that is responsive to the actual needs of users. Molholt claims that questions regarding access reveal how closely the library interfaces with computer technology; these questions point up the need for expanded research that will lead to changes in institutional structures and graduate curricula, as well as in professional philosophies.

SELECTING INFORMATION OF ENDURING VALUE FOR PRESERVATION

Richard J. Cox and Lynn W. Cox

Richard Cox and Lynn Cox approach the topic of selecting information for preservation from the differing, but related, perspectives of an archivist and a university library preservation coordinator. In the past decade, libraries have made strides in the development of effective physical treatment and reformatting techniques, in building cooperative networks to share data about preservation, in education in preservation management, and in the acquisition of support and resources for better care of library materials. Still, all these concerns should follow a determination of what should be preserved. The authors consider the challenge of preservation to all information professions, review major preservation efforts and library selection models recently proposed, discuss one source of potential solutions, and identify major research issues.

More information is being lost now than was created and used by entire generations in the past, and more information is being produced than can be used or managed. Librarians must decide which information to save, and how it should be preserved. Concern with the fragility of information is relatively recent, and modern library preservation dates only from the mid-1950s. As recently as a decade ago, the controlling premise was that all information should be preserved. Only in the late 1980s are librarians coming to recognize what archivists have had to face since the creation of their profession: not all can be saved, and criteria for selection must be developed and adhered to at both national and institutional levels. The situation for libraries is somewhat different from that for archives: most library materials are not unique by nature; libraries must make available information of temporary, as well as permanent, value; and overlaps in collections will probably always exist for the convenience of local constituencies. Despite such inherent differences in their institutional environments, librarians can draw on the experience and guidance of archivists in learning to make the hard choices about what to preserve, and then finding means to accomplish preservation.

ORGANIZING, INDEXING, AND RETRIEVING INFORMATION

Raya Fidel

Raya Fidel looks at technological developments that have brought quantitative changes in the organization and retrieval of information. Research has tended to bifurcate, being directed either to retrieval of information from online catalogs or to the searching of bibliographic databases. Both types of tools organize information in a manner useful for retrieval. Research should be integrated, with the search process itself the focus, and with results relevant to searching of either online catalogs or bibliographic databases. Indexing and retrieving should be viewed as interrelated processes. A variety of interfaces should be provided, depending on the type of search and level of user experience. An array of user aids to subject access should be tested with actual users. Some will be automated versions of print-form aids, but new ones should also be developed that are applicable only to the online format. (One example would be a natural language interface now being investigated by linguists and computer scientists.) Widespread use of automated systems in libraries provides an excellent environment for research because it facilitates observation and analysis of actual searching behavior, provides data, and presents an ideal setting for studying applications of new technology.

Fidel notes that one vision of the future, predicated on computer technology, assumes that the role of librarians in organizing and retrieving information is diminishing and may eventually disappear. She argues that the role of librarians in assisting patrons to perform online searches has increased, and training is now a major responsibility. Library instruction, reference assistance, and staff experience are essential because patrons need help. There is a need for a variety of formal and informal methods of instruction, tailored to patrons' individual needs. Librarians must acquire expertise in a wide variety of subjects until such time as users achieve independence.

INFORMATION NEEDS: OLD SONG, NEW TUNE

Joan C. Durrance

Joan Durrance addresses research in the area of information needs, noting that the past and future challenge is to learn how to identify information needs, and to accommodate service patterns around those needs in a constantly changing environment. Information needs theory has been predominantly descriptive in nature, and clear definitions of terms and concepts are largely lacking. This accounts in part for the fact that changes in information retrieval systems are almost totally technology-driven. A research bias also seems to have developed, with the focus primarily on sources needed rather than on the behavior of the individuals who need information. This has contributed as well to the failure to develop a theoretical base that could transcend individual studies.

General studies of information seeking behavior have shown that what people do drives their need for information, and Durrance notes that the study of how to get information is to be distinguished from studies of information needs. The emerging body of work shows that the types of information needed vary according to a number of factors, and understanding the difference between "problem environments" and "information environments" will play a key role in predicting information needs. The early research in this area resulted in a somewhat distorted view of information seeking in general as being mission-oriented and documented-centered; current research shows the diversity of information and problem environments.

Many researchers have come to believe that psychological factors may influence a person's motivation to seek information. They are also increasingly interested in gaining knowledge of psychological and other forces, on the premise that people may not be driven totally by the surface desire to obtain information. This broadens the focus of information needs research to include multidisciplinary aspects of the field, with inputs from psychology, sociology, and communications. Durrance discusses the ideal, perceived, and de facto roles of the librarian as an information intermediary and the impact of the "theory-in-use" on information seekers.

THE ROLE OF THE PUBLIC SERVICES LIBRARIAN: THE NEW REVOLUTION

Brian Nielsen

Brian Nielsen's essay focuses on "those services typically offered by reference librarians in all types of libraries: answering questions, performing literature searches, teaching the use of the library and of bibliographic tools, and providing advisory services to readers." He refers to two revolutions, the one that occurred in the 1970s with the advent of computing networks designed to support libraries' most labor-intensive operations, and the "new revolution" that began in the 1980s, when the online catalog introduced computing in the public area of the library -- a first step in bringing about a fundamental change in the services libraries offer and the way such services are delivered. Such changes challenge librarians' views of themselves and their profession by redefining their roles as providers of service to users.

Historically, and even now in library school education, emphasis has been on the librarian as question answerer, acting as an intermediary between the user and the desired information. Referring to research in other social sciences, Nielsen suggests that this role has been identified by the library profession as a "core task" -- the one task that offers the public a favorable impression of the profession as a whole (as bedside attention to a patient is the core task of a physician).

In attempting to enhance their professional status, librarians have clung to the intermediary role and now feel threatened by the potential for direct user access to information. Teaching and research have been governed by the core task model, and alternative roles have not been adequately considered. Research should examine the actual needs of users, drawing from research in other social sciences on help seeking behavior. Nielsen speculates that as technology renders the traditional concept of reference service obsolete, new emphasis will be placed on user instruction, and even on providing expertise in design, installation, and use of new information technologies in and beyond libraries.

LIBRARY FUNDING AND ECONOMICS

Yale M. Braunstein

In his examination of library funding and economics, Yale Braunstein hypothesizes that "output measures such as community perceptions or university ratings . . . are, at least in part, determined by quantitative measures of library services and collections." The latter "are related to budget size, which may in turn be influenced by a variety of political, economic, and social factors."

Libraries of every type are traditionally part of a larger body, so that library funding is negotiated with a "parent" organization, with all the politics, economics, and administration implicit in such an arrangement. Braunstein poses a series of questions concerning the relationship between library performance and budget: Is there a general linkage between results achieved and size of future budgets? Is budget an adequate reflection of level of demand for library services? From a systems standpoint, he states, every library has two primary functions: dissemination and repository. The mix varies. Braunstein suggests that the cost of library operations may or may not depend on the mix of outputs and their levels, and he explores the effects of budget size on library outputs. He examines various single-equation and simultaneous-equation formulas for assessing production and cost functions for libraries. Braunstein poses research questions to explore linkages between library outputs and observable measures of system effectiveness for each type of library, tying academic libraries to university ratings, public libraries to community perceptions and literacy, special libraries to organizational profitability and innovation, and school libraries to educational achievement and motivation.

SECTION 3

THE QUESTIONS

The questions that follow were raised by 40 librarians, educators, policymakers, and other professionals in the meetings convened as part of the "Setting a Research Agenda" study. The conferees were free to discuss issues, problems, and challenges that they viewed as the most important for the future of libraries in the United States. From the transcripts of the meetings, ten key issues were identified. Because the ten issues covered such a broad range of research topics, a Research Task Force was convened to recommend those topics that should receive the highest priority. Included on the Task Force were seven experts representing various types of libraries, professional organizations, and geographical regions.

The starred items are those selected by the Task Force as the topics of highest priority. They have been published in the Federal Register as FY 1989 funding priorities for the Library Research and Demonstration Program (Higher Education Act, Title II, Part B). We hope these questions invite public comment, stimulate researchers, generate more questions, and further the discussion of library and information science research.

*I. ACCESS TO INFORMATION

A. Traditional approaches/ideals

1. Are there any data or indicators showing changes in access to information over time? What are the changes? What are the barriers to unfettered access? Have they been overcome?

2. How do new social developments (information as a product, the commercialization of information) conflict with the character and organizing principles of the public library system and the concept of access to information as a universal right? Is it possible to create structures that will make departure from this concept less likely? What are they?

3. Do closed systems as represented by libraries inhibit dealing with individual needs and promote preoccupation with the product? Are barriers becoming greater, with many potential users becoming more alienated? Is a two-level society developing when it comes to access?

4. What is the interface of library materials with people's working habits, i.e., how can libraries integrate data access with user applications?

5. Is the library losing ground because it can't be a user's advocate?

6. Can libraries establish policies to improve citizen information delivery and close the information gap? Can libraries maximize a broadening of channels of distribution and decentralization of information sources?

B. Educational Impacts

1. Can access to information be broadened to reach individuals of various educational levels by innovative uses of media? How?

2. Can libraries reach a broader audience, including illiterate and/or low-literacy adults, multilingual communities, and learning disabled individuals? Are there measures of effectiveness or examples of libraries reaching these groups?

C. Physical Impacts

1. How does the physical layout of a library impact information access?

2. How does the medium in which the information is presented impact information access?

3. What is the impact of multi-type cooperatives or systems on access?

D. Technological Impacts

1 What difference have networks and other types of automation made in information access?

2. Does technology in libraries support resources and enhance learning, or does it pose a barrier to access?

3. Given slow diffusion of hardware into homes, what is the role of libraries in ensuring access to information in an electronic form?

4. Is technology being used to serve previously unserved populations?

5. What is the role of the librarian in training library users in how to use new, automated systems?

6. Is technology causing "glut" conditions without improving real access?

7. Does the information "glut" available through data base systems (the format or presentation of information) promote or diminish users' access? What is the impact on various groups?

E. Economic Impacts

1. What is the role of economic/financial backing of the individual in having access, especially to databases?

2. What is the impact of fees upon access for public libraries and academic libraries?

3. What model of information provision will balance access for all with the requisite economic stimulus for commercial enterprises?

4. What is the relation of the library market to publishing production? Can libraries influence information producers to benefit users?

5. Is the cost of new technologies creating "have" and "have-not" user communities?

F. Ideological Impacts

1. What is the relationship between the political process and information needs of citizens?

2. How do the electronic technologies impact privacy and censorship? How do the ethics of the information keeper and public policy interact?

*II. INFORMATION NEEDS/USERS

A. Who are library users, non-users and potential users?

1. How can we learn more about their information needs?

2. Are librarians able to respond to the variety of information needs of users? How can measurements be devised to test this?

3. How can libraries reach broader audiences (illiterate and low/literacy adults, the learning disabled, ethnic groups, age groups)? Are there model libraries or measures of success for reaching such groups?

4. Are the structure, organization and delivery of information influenced or decided more by aggregates of users (e.g., professional firms, businesses, citizen organizations) than by individuals as users (e.g., parent, student, private citizen)?

5. What will the needs of library users be in 10-15 years?

B. What information or assistance do users want?

1. What shapes users' perceptions of their own needs? Can these perceptions be influenced?

2. Does the kind of information available through libraries equate with power? (If it doesn't, would that explain low usage, funding problems, etc.?) Do those with power get information and then use it to further enhance their power?

3. How do people find out that a piece of information exists and is available?

4. Across the country, what percentage of questions are the same? What generates these frequently asked questions? Could an expert systems model predict or handle these questions?

*III. LIBRARY FUNDING AND ECONOMICS

A. Obtaining funding

1. What factors influence decisions about funding and how can librarians become more aware of these factors?

2. Why are some libraries well-supported and others not? What makes the difference -- economics? politics? leadership?

3. In the political arena what is the perceived value of library service? What cost-effective measures can librarians use to demonstrate the contribution of library services to larger public goals (such as economic development, education, environmental protection)?

B. Funding alternatives

1. What are the implications of increased reliance on user fees or other private revenue sources in public and academic libraries? Would people pay to get into a library as they do a zoo or park? Would access change? Would the introduction of fees conflict with traditional concepts of the library serving the public good?

2. Are traditional sources for funding public libraries (ie. property tax base) outmoded? If so, what are appropriate new models for public services finance?

3. Is the Lowell-Martin model for a federal/state/local mix for funding library service appropriate? To what extent has that mix occurred? If deemed valuable, what strategies would bring it closer to fruition?

4. What has been the effect of the block grant program on school media centers?

C. Funding and management

1. What is the correlation between library support and outcomes, such as university quality ratings, test scores, economic production, etc.?

2. What are some internal economic models of financially well-managed libraries?

3. Can a cost benefit/effectiveness library model be constructed?

4. What is adequate funding for a library? Are there formulas for establishing this? Have traditional formulas worked well or poorly over time? Is there a given dollar threshold for effective service?

*IV. LIBRARIES AND EDUCATION

A. What is the appropriate role of libraries as educational institutions?

1. How do libraries mesh with the other institutions in the educational and cultural infrastructure?

2. How can a library function as a center of intellectual activities in a community?

3. What is the library's role in assisting new citizens?

4. What should high schools (as the last place for formal education for many citizens) teach about the use of information resources and services?

5. What is the library's role in life-time learning?

6. Are public libraries teaching about their communities? Should they?

7. How can we achieve information literacy, whereby people know the kinds of information available and know the information organization of their fields?

B. Should libraries address the problems of literacy, aliteracy and illiteracy, and if so how?

1. Which library literacy programs and/or methodologies have proven most effective?

2. Can technology be applied to literacy instruction?

3. How can we measure the cost to society and to the individual of illiteracy and of the inability to use information successfully?

4. What is the impact of reading on language, on cultural minorities and on youth?

V. LIBRARY MODELS

A What is the current assessment of libraries?

1. What is a library? What are commonalities among types of libraries?

2. What do libraries actually do (a survey of activities/operations)?

3. Is the 110 year old model of public library service, which is still in use, serving current societal needs?

4. What are the roles of different types of libraries within the universe of information delivery?

5. What are other roles of the library, e.g., education, socialization, community symbol, preserver of tradition?

6. Could a case study of major libraries identify a core of problems which are not being addressed?

7. Does everyone really value what libraries offer?

8. Is there a correlation between economic productivity and library service/the availability of information?

B. What is a good library?

1. Should the profession develop flexible standards? Should they be functional and/or service standards?

2. Which style of service is more appropriate: cafeteria or case load?

3. Can good library characteristics be isolated, described and measured?

4. Should libraries provide services which are not currently in demand?

5. Is it enough for libraries to provide nothing more than access?

6. Why are successful library models successful?

7. Should libraries have a portfolio of functions instead of a mission statement?

8. Can/should libraries maintain an environment conducive to serendipity/conviviality?

9. How are libraries held accountable? How would citizens and librarians react to a citizens' checklist tested in the field?

C. What are the factors influencing or changing library roles?

1. How do libraries assimilate new roles? Are they affected by changes in society, the economy, individual needs, technological discontinuity (e.g., telecommunications), and the rise of private information services?

2. What external influences impact on libraries? Does something have to force a new model or different agenda?

3. Can libraries elicit greater participation in the design of library service from other communities, e.g., the arts, humanities, sciences?

4. What is the place of libraries vis a vis electronic media?

5. What is the relationship between libraries and successful businesses, academic institutions, and communities, etc.?

6. What is the potential impact of new technologies on the role of libraries (by type of library and type of community?)

7. What are appropriate institutional policies and strategies for better services?

8. Has automation brought a focus on the management of information and taken it away from the user or delivery of information, with a concomitant decrease in the professional component of the staff (i.e., more clerical and support staff, less professional librarian service to user)?

D. What are models for the future?

1. What can be applied from futures research to project future needs?

2. If there were no libraries, how would we design them to accommodate many functions?

3. What is the best way to direct the development of libraries -- laissez faire, a general plan, a defacto unstated policy?

4. Can the library build bridges between itself and other major information sources, e.g., TV? Can the wisdom of the ages be more accessibly packaged and disseminated?

5. What is an appropriate model of library service to fulfill user needs for information? What library infrastructure would best serve those needs? What structure will match needs, resources, and their delivery?

6. Could the future library be an 800 telephone number with subject specialists and a central control point for resources?

VI. ORGANIZING, INDEXING AND RETRIEVING MATERIALS

A. Organizing and indexing information

1. What is the best way to create descriptors and to index information?

2. When is it worthwhile to index/retrieve information to a finer level (for example, to paragraph level rather than document level)?

3. Can we apply new text-processing technologies and expert systems to the traditional tasks of culling, organizing, and retrieving information at a reasonable cost?

4. How can we best organize and index non-bibliographic materials? Can video indexes be produced for visual material to avoid costs of transcription?

5. What trends characterize the production, organization and access of government documents since World War II? Are unique systems necessary in the organization and retrieval of government publications?

B. Retrieving Information

1. What is the relationship between citation and full text? Where will libraries obtain the full text to back up what has been cited electronically? What is the optimal full text delivery? What is the role of translation?

2. What is the current role of depository libraries? How can libraries improve the use of government documents and international materials?

3. Are the expenses of highly developed retrieval systems (interlibrary loan, networks, etc.) justified by their use? (For example, only a small percent of campus library needs are currently met through such off-site retrieval methods.)

4. How can information in storage systems best be identified for retrieval?

5. What impact does electronic technology have on the structure and presentation of information to users?

6. How can we apply results from Artificial Intelligence, text processing, and expert systems research to improve retrieval of information?

VII. ARCHIVES AND PRESERVATION

A. Who is responsible for evaluating and preserving information of long-range value in our society?

1. What criteria determine the long range value of information independent of its medium (print, electronic information, ephemeral such as last week's TV news, local records)? Is valuable archival information falling through the preservation "net"?

2. What are the costs of storage/archiving and who pays? What is a library's responsibility to maintain the "social/historical record" regardless of "profitability" considerations"?

3. What is the library's responsibility in collecting, storing, and accessing local records? What preservation procedures are appropriate and feasible for small libraries?

4. What is the federal mandate in collecting information? Is it a federal responsibility to see that certain information is kept?

5. Who archives electronic information? How can ephemera, such as last week's TV news and speeches, be retrieved?

VIII. THE ROLE OF THE PUBLIC SERVICES LIBRARIAN

A. What are appropriate ways of organizing reference services?

1. How should the reference function be staffed?

(a) Should reference desk hours be specialized by staff expertise?

(b) What are the respective roles of subject specialists versus generalists in reference?

2. Which reference questions should be handled in-house and which should be referred beyond the local level?

3. How does the cost of reference service compare to its value?

4. Can expert systems and other technology handle some reference functions cost-effectively?

B. Should librarians try to "add value" to the information they give? For example:

1. Should they help patrons enrich a simple question or refine a broad one?

2. What is the role of librarian as intermediary -- to provide synthesis or specific pieces of information? What are the costs of synthesizing information? What talents are necessary to provide a value-added element to make materials accessible?

3. Should libraries return more to the use of traditional value-added staff positions (readers' advisor, children's specialists) despite extra time and cost?

C. How far should the reference function go? Where does the librarian draw a line between training the patron to find his own information/solve his own problem and solving the problem for him?

1. How much training in information-seeking skills should the library provide?

2. How much searching should the librarian do?

3. Should the amount of time spent training/searching vary with the sophistication of the user?

D. How can we improve the librarian's role as an information advisor/counselor? Are there areas where librarians can take a more active role, not only in providing answers, but in building new databases, information products and services?

IX. POLICY ISSUES: FEDERAL, STATE, AND LOCAL ROLES AND RESPONSIBILITIES

A. What public policy is in place or being developed that relates to libraries?

1. What are the expectations and assumptions on the part of public decision makers regarding how libraries should operate?

2. What are the bodies (organizations, boards, government agencies) currently setting library policy and which are most influential?

3. What state and federal legislation not specifically labeled "library legislation" affects the profession and who is monitoring this legislation?

4. What private sector/public sector issues affect library policy?

5. What are society's long range interests in information policy? Do these coincide with policy-makers' priorities?

6. What are the criteria used for decisions in allocating resources to information activities?

B. What is the federal role in setting national library policy?

1. Do we need a national library policy or will our current traditions suffice?

2. What is the federal responsibility in collecting data and information on libraries? Is it a federal responsibility to see that certain things are kept?

3. In the absence of a national library or library entity, what is the responsibility of states and localities in setting their own agendas?

4. What are the effects of selected federal laws (for example copyright and access restrictions) on the library's ability to carry out its function?

X. EDUCATION AND TRAINING OF LIBRARIANS

A. Are the needs of the nation for library and information professionals being met?

1. Would an assessment of library/information science schools similar to the Commission on Excellence in Education report (A Nation at Risk) be useful?

2. Would a long-term study of changes in library/information science school curricula show a parallel with changes in society? Are library/information science school curricula keeping up to date with changes in the economy, technology, and society?

B. What is the profile of the current library/information science school student body versus the desired student body in terms of:

1. Personal characteristics and motivation?

2. Undergraduate preparation?

C. Are library/information science schools teaching the knowledge, attitudes and skills (including human relations skills) that are necessary to manage a library or work in the information field?

1. What core courses or subjects should be common to all information professionals?

2. What additional specialization is necessary to meet the varying needs of library clienteles?

(a) Should specialization occur within the MLS degree, at an advanced degree level or on the job?

(b) Should major library/information science schools develop unique specializations?

3. Can the quality of teaching and research be improved by better application of new technologies and more innovative approaches?

D. How effective and well-utilized are continuing education and on-the-job training efforts for librarians?

1. What is the shelf-life of a library/information science school education?

2. Should libraries provide in-house management training similar to business?

3. What is the role of the library manager in staff development?

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